



Green Bond Framework

October 2020

1. Introduction

1.1. Arkema in brief

Following the stock market listing in May 2006, Arkema has been carrying out an in-depth transformation, with a broad evolution of its business portfolio through many acquisitions and divestments, the rebalancing of its geographic exposure, and by investing in innovation focused on the major sustainable development trends. Thus, Arkema has built a unique set of expertise in materials, putting together capabilities in terms of bonding, substituting traditional materials by lightweight or bio-based alternatives, or coatings. With a leading industrial and commercial presence, Arkema is operating in 55 countries with 20,500 employees worldwide, 3 R&D hubs and 144 industrial sites.

In 2020, Arkema is entering a new phase of its transformation and will reinforce this expertise now structured into three coherent and complementary segments - Adhesive Solutions, Advanced Materials, and Coating Solutions. These three segments represent the Specialty Materials platform on which Arkema has built its long-term strategy and which accounted for some 80% of Group sales in 2019. Beyond this platform, the Group has also set up an Intermediates segment with well-positioned, competitive and more cyclical activities, whose part in Arkema's portfolio will be progressively reduced through differentiated strategies across businesses.

In line with its ambition to become a pure player in Specialty Materials in 2024, offering the most innovative and sustainable solutions to address its customers' current and future challenges, the Group will notably leverage on its innovation and its investments in major projects offering promising growth opportunities and meeting major challenges such as new energies, lightweight, recycling, urbanization or mobility.

1.2. Corporate Social Responsibility (CSR) strategy

In a world facing considerable ongoing economic, environmental and social challenges, Arkema strives to bring to its customers sustainable and innovative solutions, contributing to the Sustainable Development Goals (SDGs) of the United Nations. To that end, Arkema operates as a responsible manufacturer and resolutely observes a policy of continuous progress and operational excellence. Arkema cultivates interaction and close relations with its stakeholders through open and constructive dialogue. Supporting the United Nations Global Compact and complying with the Responsible Care® initiative, Arkema's social responsibility target is to create value both for stakeholders and the company.

1.2.1 Three key commitments

Deliver sustainable solutions driven by innovation

Sustainable development solutions are central to Arkema's innovation policy and the upgrade of its product range. Through continuous skills development, decisions on research focuses, its organization structure and innovation processes, Arkema is working, with its partners, to develop solutions that meet current and future social challenges (see section 1.4). Notably, Arkema creates solutions allowing customers to reduce their GHG emissions with the "Lightweight materials and design", the "New energies" and the "Home efficiency and insulation" platforms. Arkema also produces low carbon products based on renewable and recyclable raw materials such as Rilsan® polyamide 11 (PA 11).

Arkema is committed to ongoing dialogue and operational excellence, designed primarily to satisfy its customers and partners and to develop their loyalty.

Manage our activities as a responsible manufacturer

Arkema's goal is to rank among the leading chemical and material producers in safety performance. Its workplace health and safety policy is based on risk prevention, management guidelines and a culture of safety. Arkema also takes care that neither people's health or safety, nor the environment, are impacted by its products. Arkema considers these aspects in the product design. Arkema is committed to the climate and a reduction in the environmental footprint of its business activities (see section 1.3). Arkema is working to reduce the consumption of resources such as energy and water, decrease the emissions stemming from its activity, develop the use of renewable resources, and foster the circular economy.

This commitment to act as a responsible manufacturer is visible through the long term key performance indicators for which global programs are in place:

	Target year	Target	2019	2018	2017
RESPONSIBLE MANUFACTURER					
Percentage of AIMS audited sites	2025	100%	80%	74%	69%
Safety					
Total recordable injury rate (TRIR) ⁽¹⁾	2025	<1.2	1.4	1.3	1.6
Process safety event rate (PSER) ⁽²⁾	2025	<3	3.7	4.4	3.9 ⁽³⁾
Percentage of sites having implemented peer observation in the last three years	2025	100%	62%	64%	59%
Environmental footprint					
Greenhouse gas (GHG) emissions ⁽⁴⁾ (in absolute terms compared with 2015)	2030	0.62	0.87	0.90	0.96
Volatile organic compound (VOC) emissions (in EFPI terms compared with 2012)	2030	0.35	0.60	0.62	0.66
Chemical oxygen demand (COD) (in EFPI terms compared with 2012)	2030	0.40	0.50	0.59	0.70
Net energy purchases (in EFPI terms compared with 2012)	2030	0.80	0.91	0.88	0.89

(1) The TRIR includes injuries to both Group and subcontractor employees.

(2) The PSER is calculated in accordance with the criteria set out by the International Council of Chemical Associations (ICCA) and the European Chemical Industry Council (CEFIC).

(3) The method for calculating PSER was reviewed in 2018

(4) Greenhouse gas emissions cover direct Scope 1 emissions and those of ozone-depleting substances, and indirect Scope 2 emissions.

Source: <https://www.arkema.com/export/sites/global/.content/medias/downloads/investorrelations/en/finance/arkema-urd-en-2019.pdf>

Cultivate an open dialogue and close relations with stakeholders

Open dialogue with its internal and external stakeholders is a cornerstone of Arkema's social policy.

Arkema adheres to Human Rights and fundamental freedoms, and places them at the heart of its business activities. It favors the individual and collective development of its employees. Arkema's global human resource policy places a key focus on the development of skills and the promotion of diversity.

Arkema strives for open dialogue with its customers, suppliers and partners with a view to building a responsible value chain that creates shared value.

Arkema is member of the Together for Sustainability initiative, a program designated to encourage social responsibility across the chemical industry service chain. It enables member companies to share findings of assessments or audits of CSR performance including environmental and climate performance. Arkema is also member of the CDP supply chain to engage its suppliers to monitor and reduce their carbon footprint.

Additionally, the Arkema Common Ground® initiative, addressing the neighboring communities of our sites, serves to develop lasting relationships based on trust and openness.

1.2.2 Table of Arkema contribution to the United Nations SDGs

		Sustainable solutions	Responsible manufacturer	Open dialogue		Sustainable solutions	Responsible manufacturer	Open dialogue
	No poverty			1.5				10.4
	Zero hunger	2.1 2.3 2.4				11.1 11.2		
	Good health and well-being	3.8	3.5 3.6 3.9	3.5 3.6 3.9		12.2 12.3 12.4 12.5	12.4 12.5	12.6
	Quality education		4.3 4.4 4.5	4.3 4.4 4.5 4.7		13.1	13.1 13.3	
	Gender equality			5.5		14.1	14.1 14.2	
	Clean water and sanitation	6.1 6.2 6.3 6.4	6.3 6.4			15.1 15.5	15.5	
	Affordable and clean energy	7.2 7.3	7.2 7.3					16.5
	Decent work and economic growth			8.4 8.5 8.7 8.8		17.17	17.14	17.14
	Industry, innovation and infrastructure	9.1 9.4 9.5	9.4					

■ Strategic contribution (through strategic objectives or programs)
■ Direct contribution (resulting from voluntary initiatives)
■ Indirect contribution (resulting from the Group's activities)

1.3. Climate strategy

A supporter of the fight against climate change, Arkema is committed to reducing its energy use and the greenhouse gas emissions (GHG) associated with its activities.

As Arkema has met its GHG reduction target ahead of time and aims to bolster its contribution to climate issues, Arkema has decided in 2020 to set a new target. That results, for Arkema, in a new long-term objective of reducing its absolute emissions by more than 1.7 million metric tons of CO₂ equivalent compared to 2015 to reach less than 3 million metric tons in 2030, regardless of the increase of its production volumes,

i.e., a decrease of 38%¹ over 15 years. This new long-term Science-Based Target (SBT)², is deemed consistent with the goal of keeping the rise in global temperatures to well below 2°C above pre-industrial levels by the end of the century, in accordance with the Paris Agreement and recent reports from the Intergovernmental Panel on Climate Change (IPCC).

As part of its mobilization in favor of the climate and its strategic objective of reducing GHGs, Arkema is working to reduce its energy consumption, shift its energy mix in favor of low-carbon energy sources and to develop solutions that help reduce greenhouse gas emissions.

1.4. Sustainable solutions

In today's world of powerful global trends, such as increasing urbanization, resource scarcity, climate change and new technologies, Arkema focuses its research efforts to ensure its solutions adequately address market demand and specific customer expectations worldwide. Based on this work, which is reviewed regularly, Arkema has set up 6 innovation platforms which contribute to six UN SDGs:

<p>BIO-BASED PRODUCTS</p>  <ul style="list-style-type: none"> • Around 9% of total Group sales • Specialty Rilsan® polyamides 11 and 10 made from castor oil for the automotive, energy, optics and electronics industries 	<p>LIGHTWEIGHT MATERIALS AND DESIGN</p>  <ul style="list-style-type: none"> • Specialty polyamides, Kepstan® PEKK and Elium® recyclable resin, in particular for thermoplastic composites used in the automotive, aerospace and oil and gas sectors • N3xtDimension® UV curable resins, specialty polyamides and Kepstan® PEKK for 3D printing 	<p>NEW ENERGIES</p>  <ul style="list-style-type: none"> • Kynar® PVDF (separator coatings and binders) and Foranex® electrolytes for batteries • Kynar® PVDF for photovoltaics • Elium® recyclable resin for wind power
<p>WATER MANAGEMENT</p>  <ul style="list-style-type: none"> • Kynar® PVDF for water ultrafiltration • Albone® hydrogen peroxide to treat drinking water 	<p>ELECTRONICS SOLUTIONS</p>  <ul style="list-style-type: none"> • Kynar® PVDF and specialty polyamides for tablets and smartphones • Piezotech® piezoelectric polymers for connected objects 	<p>HOME EFFICIENCY AND INSULATION</p>  <ul style="list-style-type: none"> • Adhesives and sealants for windows, doors and insulation panels • Acrylic emulsions with a low volatile organic compounds content

¹ Absolute target for Scope 1 et Scope 2 emissions as defined in the Kyoto Protocol, as well as substances listed in the Montreal Protocol.

² Arkema worked with ECOACT consulting to put in place the SBT method and define this target. As of today, the dossier has been submitted to SBTi, waiting for validation.

Additionally, to shift its product range more assertively toward sustainable solutions, Arkema has initiated a program to systematically assess its portfolio of solutions against a set of sustainability criteria. The methodology selected for this sustainable criteria corresponds to that set out by the World Business Council for Sustainable Development (WBCSD) in its publication entitled “Chemical Industry Methodology for Portfolio Sustainability Assessments (PSA)”³. Products are considered in the context of their applications and of the regions in which they are sold. To the extent permitted by the information available, the assessment takes into account the entire value chain, including manufacturing processes, from raw materials to the product’s end of life.

1.5 Rationale of Arkema’s Green Bond issue

The urgent fight against climate change and dwindling supply of fossil resources calls for the development and progressive migration to a larger and better use of bio-resources, in particular in the chemical industry.

Arkema aims to respond to the sustainability challenges of its sector by bringing to the market this unprecedented Green Bond transaction promoting the production of innovative low carbon products based on renewable and recyclable raw materials. Through this Green Bond Framework, Arkema intends to secure financing dedicated to one major innovative and sustainable development project at the heart of its organic growth strategy, its new world-scale plant based in Singapore, dedicated to the manufacture of the amino 11 monomer and its flagship Rilsan[®] polyamide 11 resin from castor oil, a renewable and sustainable feedstock.

Through this Green Bond Framework, Arkema is further committing to its Innovation Policy while giving investors the opportunity to contribute to the development of innovative sustainable solutions in the chemical industry, and confirms its leadership in terms of sustainability and innovation.

2. A framework complying with the ICMA Green Bond

Principles

This Framework enables Arkema to raise finance in the form of green bonds, green project finance and any other types of financial instruments (the “Green Bonds”), the proceeds of which are allocated to eligible green projects as described in this framework.

Arkema commits to provide information with transparency, accuracy and integrity according to the four core components of the ICMA Green Bond Principles (GBP)⁴ :

- i. Use of Proceeds
- ii. Process for Project Evaluation and Selection
- iii. Management of Proceeds
- iv. Reporting

³ <https://www.wbcd.org/Programs/Circular-Economy/Factor-10/Sector-Deep-Dives/Resources/Chemical-Industry-Methodology-for-Portfolio-Sustainability-Assessments>

⁴ ICMA’s Green Bond Principles 2018 <https://www.icmagroup.org/green-social-and-sustainability-bonds/green-bond-principles-gbp/>

2.1. Use of Proceeds

An amount equal to the net proceeds of the Green Bonds will be used to finance and/or refinance, in whole or in part, investments made by Arkema in the construction of Arkema's new world-scale plant based in Singapore, dedicated to the manufacture of the amino 11 monomer and its flagship Rilsan® polyamide 11 resin from castor oil, a renewable and sustainable feedstock (the "Eligible Project").

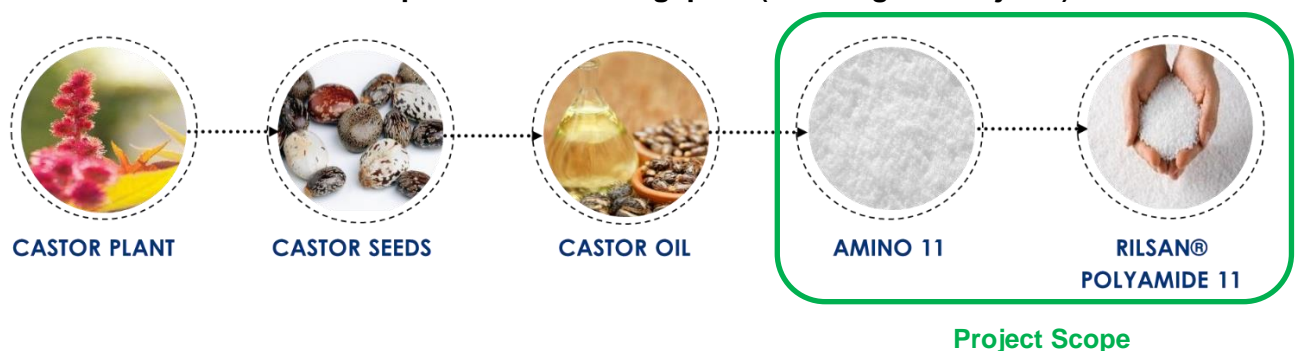
2.1.1. Eligibility Criteria

The products manufactured through the Eligible Project shall meet the Eligibility Criteria below:

- Criteria 1 – Their manufacture is wholly derived from **renewable feedstock** whose sourcing is in line with sustainability guidelines, as described in section 2.1.2.
- Criteria 2 – The **carbon footprint** of the derived polymers is significantly **lower** when compared to the carbon footprint of comparable polymers manufactured with fossil fuel feedstock. The carbon footprint is calculated in accordance with ISO 14067:2018, 14040 and 14044 and validated by a third party.
- Criteria 3 – Given the high value and performance of the derived polymers, they are used in demanding durable applications, and **not for single use consumer products**.

The eligible investments will include all the internal and external cost incurred or allocated to the Eligible Project, from initial feasibility studies to the start-up of the plant operations, accounted for in capital expenditures (CapEx) within a look-back period of no more than 2 years.

2.1.2. Focus on Arkema's plant based in Singapore (the "Eligible Project")



Arkema is the only producer in the world of amino 11, the monomer (the base building block) to make Arkema flagship polymer family Rilsan®.

Rilsan® PA11 was invented more than 70 years ago (right after World War II) in France with the objective of making a high performance polymer from a non-fossil, renewable source. Amino 11 indeed is 100% derived from castor oil and by this fact, it also reduces dependence on fossil fuels.

This family of bio-based and fully recyclable high performance polymers is recognized worldwide for its superior properties and performance in very demanding applications, significantly contributing to the development of fast growing sustainable market segments, such as clean mobility and New Energy Vehicles (NEV) in automotive, 3D printing or consumer goods (sport, electronics, optics).

Amino 11 is currently produced solely in Arkema's historical plant in Marseille, France.

To support the growth of its customers, Arkema has recently deployed a major investment plan in Asia with a view to increasing by around 50% its worldwide production capacity of amino 11, aiming at serving its customers in the "region from the region". The Group is building its world-scale plant in Singapore, dedicated to producing amino 11. The project also includes the production of Rilsan® PA 11 on the same site. The new plant has been designed with state of the art technology, to maximize its efficiency and minimize its environmental impact and is scheduled to come on stream in 2022.

This investment illustrates the Group's long-term commitment to meet strong demand from its customers in Asia by offering biosourced solutions to the key challenges of eco-conception of materials and products.

i. Sustainable sourcing: the castor crop

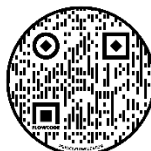
Renewable feedstock for the production of Rilsan® polymer is castor oil, which comes from the pressed castor seeds ("beans"), produced by the castor plant. It is a non-edible vegetable oil with no nutritional value for humans or animals and the primary uses for castor oil include personal care products, plastics, coatings, and lubricants. The castor plant is grown under tropical and sub-tropical conditions, with India accounting for more than 80% of today's global castor seed and oil production. The Gujarat region in India has soil and climate conditions perfectly suited to castor plants.

Castor oil market is much smaller (50 to 100 times) than well-known controversial edible vegetable oils markets such as soybean oil and palm oil.

Castor per se and the agro-farming ecosystem in the region are quite unique from the sustainability standpoint:

- ✓ Castor is a non edible crop: no competition with food. In addition, castor is a non Genetically Modified (GMO) crop.
- ✓ Castor grows on marginal lands: it is a very robust and drought resilient plant that grows in semi-arid areas; rich lands are reserved for food crops. Moreover, castor is considered a *Kharif* crop – this means it takes advantage of the seasonal monsoon rains (July – October).
- ✓ The surface area of the agricultural lands has been steady for many years. There is no evidence of deforestation in the past 30 years (see Appendix).
- ✓ No direct nor indirect land use change: castor is a cash crop complementary to food crops that farmers grow every year on a portion of their land to buy things for the farm and their family.
- ✓ Sustainable Farming: in Gujarat, a state with a surface area of 200 000 km², there are approximately 700 000 family farms (small holder model) for about 800 000 hectares cultivated with castor. Farmers grow more than one crop type at the time. Each sowing season farmers decide what crops to grow and to what extent, based on the needs, crop price and monsoons forecasts. Castor is defined as a financially safe and profitable crop that grows in any condition and farmers generally have a portion of their land dedicated to it. It can be sold easily (there are approximately 200 market yards in the region where castor beans are traded) and can be stored for some years in case the farmers prefer to sell it at a later time, when needed.

Watch more on castor farming:



The Pragati Initiative⁵ (see Appendix 2)

Arkema today is a major user of castor oil. With consequent sense of responsibility for this ecosystem derived by its position, along with 3 partners (BASF, Jayant Agro-Organics Ltd., industrial users of castor oil and Solidaridad, a civil society organization), Arkema has launched the PRAGATI initiative, a pilot project that encourages and educates on sustainable castor bean farming in the region of Gujarat in India.

ii. Castor oil making

The beans traded by farmers in the market yards are transferred to the crushing mills. There are a number of oil producers in the region. Arkema is a minority shareholder in one of the largest ones (Ihsedu, a Joint venture with Jayant Agro Organics, Ltd).

Arkema is member of the Together for Sustainability initiative (tfs-initiative.com). Together for Sustainability is a joint initiative of chemical companies, founded in 2011. It has developed and implemented a global program to assess, audit and improve sustainability practices within the supply chains of the chemical industry. The assessment process is based on established international sustainability standards and provides experts' feedback for both the members and the suppliers. The TfS assessment covers the supplier's sustainability management approach regarding environment, labor practices and human rights, ethics and sustainable procurement. To ensure a consistent and reliable supplier assessment approach, TfS selected EcoVadis, a global leader for Corporate Social Responsibility assessments, as its partner and service provider.

Our main castor oil suppliers have embraced such program and have now engaged in the assessment process.

iii. Manufacturing plant

The new manufacturing facility is located on Jurong Island, the main industrial area of Singapore, on a reclaimed land developed on purpose.

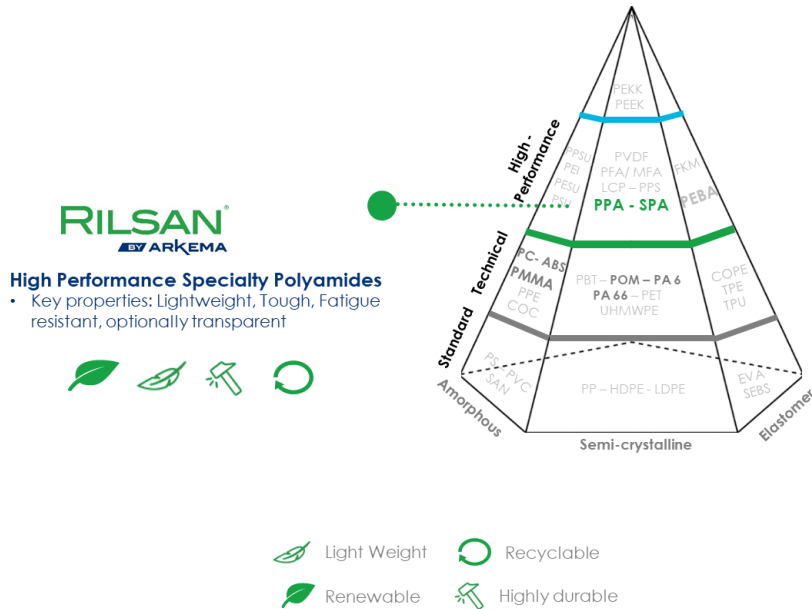
The regulatory process to authorize chemical activities in Singapore is in line with the best international standards. The safety and environmental performance of the plant design must comply with the local regulatory requirements. After review of a quantitative risk assessment, a pollution control study, an environmental baseline study and an energy efficiency opportunity assessment, permit has been granted to Arkema by the Singapore authorities.

Besides regulatory requirements, the plant design also includes internal guidelines and policies in line with the Group's CSR commitments.

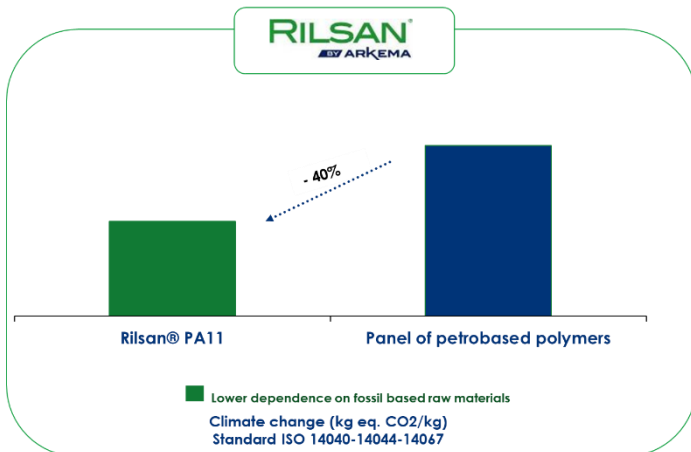
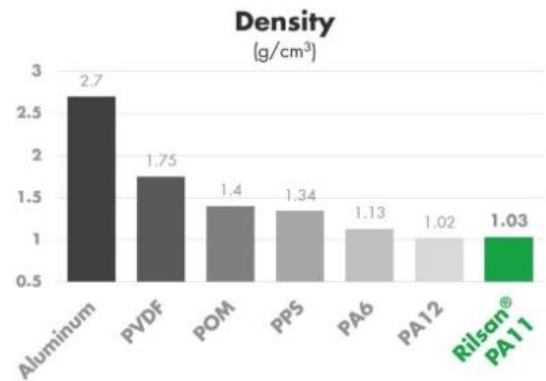
⁵ Pragati means "progress" in Hindi.

iv. Biobased Rilsan® PA11, a sustainable high performance polymer

Rilsan® PA11 resins are positioned high in the polymers pyramid thanks to their unique properties:



Rilsan® PA11 resins are exceptionally lightweight with a neat resin density of only 1.03 g/cm³. With many industries looking for ways to reduce weight in their designs, Rilsan® polyamide 11 grades can provide long term durability and strength, making metal replacement even more possible.



Rilsan® PA11 has become the global reference when it comes to flexible polyamide resins with outstanding impact, durability, and chemical resistance properties. Its crystalline morphology allows this special polymer to differentiate itself from petroleum-based alternatives.

The Life Cycle Analysis (LCA) profile of Rilsan® PA11 is approximately 40% more favorable in terms of CO₂ emissions per kg of polymers than that of a panel of petrobased polymers that it aims at replacing in targeted applications.

v. **Applications**

Rilsan® resins are used extensively in markets and applications that are considered to be inherently sustainable. Frequently, they play an *enabling role* - i.e. the application may not exist without the polymers' specific features. Often, they play a further *enhancing role* - i.e. the polymers make those applications more effective or longer lasting. In other words, Rilsan® PA 11 makes green applications "greener".

The Eligible Project is mainly dedicated to serve these markets and applications:

- ✓ Automotive & Transportation (ICE⁶, clean mobility, New Energy Vehicles (NEV))
 - Rilsan® resins aim at reducing vehicles weight (metal replacement) while enhancing performance (high chemical resistance, mechanical performance, flexibility) and replacing rubber. As opposed to rubber, Rilsan® can be processed more easily and can be recycled and reused a great number of times.
 - Clean mobility and NEV represent numerous opportunities for Rilsan® PA 11. While it is already used in SCR⁷ for example for its exceptional chemical resistance at high temperature, Rilsan® PA 11 is developing into applications such as cooling lines, BusBar coatings, connectors or Hydrogen tanks etc...
- ✓ Powder coatings
 - Rilsan® PA 11 can be used to replace more noble, stainless steel with common carbon steel with a clear manufacturing energy saving that is directly translated in CO₂ emissions reduction. As an example, it is used in coating for drinking water pipes, valves and flanges in waterworks and desalination plants.
- ✓ 3D printing
 - Today's supply chain is shifting from "just in time" to "here and now". Rilsan® PA 11 is used in laser sintering 3D printing technology. Until recent times, the industry standard for such technology and range of applications was polyamides from fossil source. Rilsan® polyamide 11 represents a breakthrough innovation from two standpoints: performance and sustainability (being fully bio-based and through its much lower CO₂ emissions).
- ✓ Consumer Goods (sport, electronics & electrical, eyewear, outdoor apparel, home appliance)
 - Rilsan® polymers are chosen for their mechanical performance, lightweight, bio-based origin and recyclability.

More details can be found on our website here: <https://www.extremematerials-arkema.com/en/product-families/rilsan-polyamide-11-family/>

vi. **End-of-life management / Recycling – Virtucycle™ Services**

Recycling is becoming a strategic topic for all industries that put sustainability at the center of their development. Until now, recycling was synonymous of commodity business: low performance, entry-level application and low price, i.e. focusing on packaging. Rilsan® polymers, in addition to be recyclable, can recover most of their original properties and get an infinite number of application lives.

⁶ Internal Combustion Engines.

⁷ Selective Catalytic Reduction (better known as AdBlue®) aims at converting toxic NO_x into non-toxic N₂, thus reducing air pollution.

Willing to take action in recycling, Arkema has created a strong partnership with the market leader in High Performance Polymers (HPP) – including Rilsan® PA 11 – recycling/regeneration and has recently launched the Virtucycle™ services. Arkema plays the unique role of “matchmaker” by matching ‘source suppliers’ who have a desire for their final product and/or recovered material to be recycled with ‘target consumers’ who have a desire to use recycled materials.

Virtucycle™ program is at its pilot phase and expected to reach full maturity and broad world coverage in the next years. Combined with the additional capacity given by the Singapore plant, this will enable Arkema to offer a 360 degrees sustainable solution to its customers around the globe.

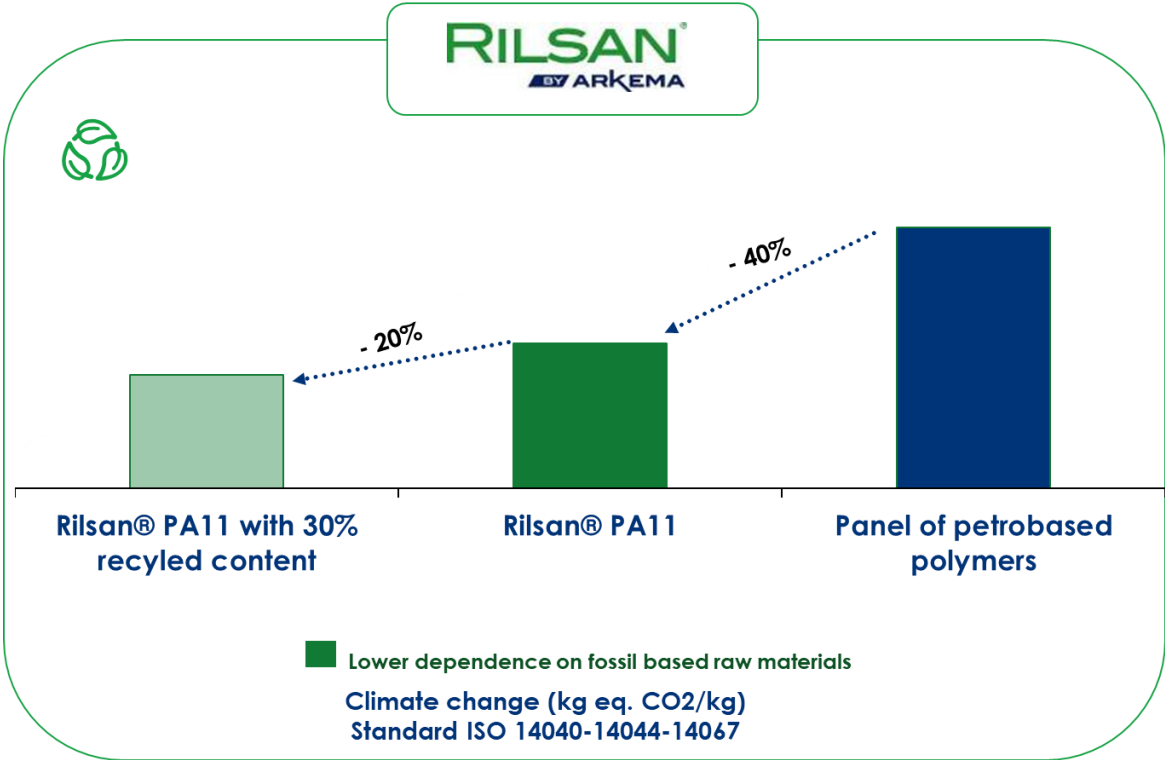
More information on our website here: <https://www.extremematerials-arkema.com/en/sustainability/virtucycle/>

Arkema has chosen a comprehensive and sophisticated **mechanical recycling** technology for its castor based polymers.

HPP mechanical recycling is not simple “regrinding” but a sequence of steps that includes separation, purification, quality and properties classification and final lot-by-lot assemblage to recover at most the original properties of the material.

This technology allows the recovery of the mechanical properties of the materials and keeps the additional carbon emissions due to the reprocessing operations to a minimum, especially if compared to other end of life treatments such as chemical recycling or incineration.

As a first estimation, for a 30%-recycled content resin, the expected CO₂ saving would be in the area of 20%.



2.1.3. Contribution to the UN Sustainable Development Goals

Arkema's Eligible Project makes a direct and significant contribution to the following UN SDGs:



The Eligible Project's main priority is to produce renewable bio-based products, limiting the degradation of environmental resources while reducing waste and enhancing sustainability practices across all sectors of the economy. (see in particular 2.1.2.i. Sustainable sourcing: the castor crop, v. Applications and vi. End of life management / Recycling – Virtucycle™ Services).



Unlike fossil fuel-based polymers, whose carbon content is derived from millions of years of organic decomposition, the carbon content of bio-based, renewable polymers is derived from atmospheric CO₂, which is incorporated into bio-molecules by plant photosynthesis to produce longer chain organic chemicals. (see in particular 2.1.2.iv. Biobased Rilsan® PA11, a sustainable high performance polymer).

The main applications and range of products of the Eligible Project also contribute to UN SDGs: 6 (Clean water and Sanitation) and 9 (Industry, Innovation and Infrastructure).

2.2. Project Evaluation and Selection Process

The Eligible Project has been selected by Arkema's Executive Committee after a coordinated evaluation process by Arkema's Financing & Treasury Department, Sustainable Development Department and High-Performance Polymers Business Line. This decision has been made based on Arkema's biosourced polyamide 11's unique contribution to climate action and responsible consumption and production, as well as the importance of the Eligible Project to the global development and expansion of this product.

In particular, a dedicated Green Bond Committee formed by members of Financing & Treasury, Sustainable Development, Investor Relations as well as High Performance Polymers will meet, at least, on an annual basis for the lifetime of the bonds to fulfill the responsibilities listed below:

- Ensure that the Eligible Project is always compliant with the Eligibility Criteria described in the section "Use of Proceeds". In case of major change, the Green Bond Committee could meet exceptionally and nominate a dedicated task force of experts to analyse and remediate the situation if appropriate. This task force would directly report to the Green Bond Committee.
- Draft, verify and validate annual reporting (see 2.4. Reporting).

2.3. Management of Proceeds

The processes for management of proceeds are handled by Arkema's Finance & Treasury Department.

The net proceeds from the Green Bonds will be deposited in Arkema's general account and an amount equal to the net proceeds will be allocated to capital expenditures towards the Eligible Project, in accordance with this Green Bond Framework. An amount equivalent to the net proceeds of the Green Bond, and the investments towards the Eligible Project, will be monitored and kept in Arkema's accounting systems.

The project controlling team of the company in Singapore tracks all spending's related to the Eligible Project and provides a dedicated internal reporting on a monthly basis to the Central Controlling Department and periodically to the Executive Committee. This will enable Arkema's Treasury team to monitor the allocation of an amount equivalent to the net proceeds from the Green Bonds to the Eligible Project.

Arkema's Finance & Treasury Department will ensure that the amount of the net proceeds of the Green Bond does not exceed the total eligible investments related to the Eligible Project.

Pending full allocation of an amount equivalent to the net proceeds of the Green Bonds, Arkema will invest the balance of the net proceeds, at its own discretion, in cash or cash equivalent, or in other liquid marketable instruments, as per the company's liquidity management policy.

Arkema intends to allocate the proceeds to the Eligible Project no more than 2 years prior to the issuance (look-back period) and the full amount equivalent to the net proceeds within the next 36 months following the issuance of the Green Bonds.

2.4. Reporting

Allocation Report

Arkema will report on the allocation of an amount equivalent to the net proceeds of the Green Bonds within eighteen months of issuance date, and yearly thereafter until the bond proceeds have been fully allocated.

Arkema will report on:

- ✓ The total net amount being allocated to the Eligible Project,
- ✓ The share of new financing vs refinancing,
- ✓ The balance of any unallocated proceeds.

Impact Report

Until the Eligible Project is completed, Arkema intends to provide annually an update on the advancement of such project. Such measure will be provided by Arkema's project team in Singapore and will be validated by Arkema's Green Bond Committee.

After completion of the Eligible Project and at least once during the lifetime of the bond, Arkema intends to provide a measure of the impact of this project on climate change in tons of CO₂ avoided. This will be based on data provided by Arkema's High-Performance Polymers Business Line supply chain and Arkema's LCA expert team, through a LCA analysis that will be validated by a third party. The figures and calculations will be validated by Arkema's Green Bond Committee.

Information on the methodology and assumptions used to evaluate the environmental benefit of the Eligible Project will be detailed in the report.

Both reports will be, to the extent feasible, published as part of Arkema's Universal Registration Document, which will also include the publication of an external third-party assurance (please see "External Review" section below).

2.5. External Review

2.5.1. Second Party Opinion

Arkema's Green Bond Framework has been reviewed by Vigeo Eiris who provided a Second Party Opinion, confirming its alignment with the ICMA's 2018 Green Bond Principles (GBP) and its coherence with Arkema's strategic sustainability priorities.

Both Arkema's Green Bond Framework and Second Party Opinion are available on Arkema's website: <https://www.arkema.com/en/investor-relations/regulated-information/>

2.5.2. External Verification

An independent auditor will provide a limited assurance to ensure the allocation of the Green Bonds proceeds – on an annual basis and until the proceeds are fully allocated, as well as the measure of the impact of the project on climate change described in the impact report – at least once in the lifetime of the bond, are compliant with the Framework.

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There can be no assurance that the Eligible Project will be capable of being implemented in or substantially in the manner and with the results or outcome (whether or not related to the environment) as originally expected or anticipated by Arkema and/or in accordance with any timing schedule as described in the Framework.

Furthermore, it should be noted that there is currently no clear definition (legal, regulatory or otherwise) of, nor market consensus as to what constitutes, a “green” or an equivalently-labelled project or as to what precise attributes are required for a particular project to be considered “green” or falling under such other equivalent label, nor can any assurance be given that such a clear definition or consensus will develop over time.

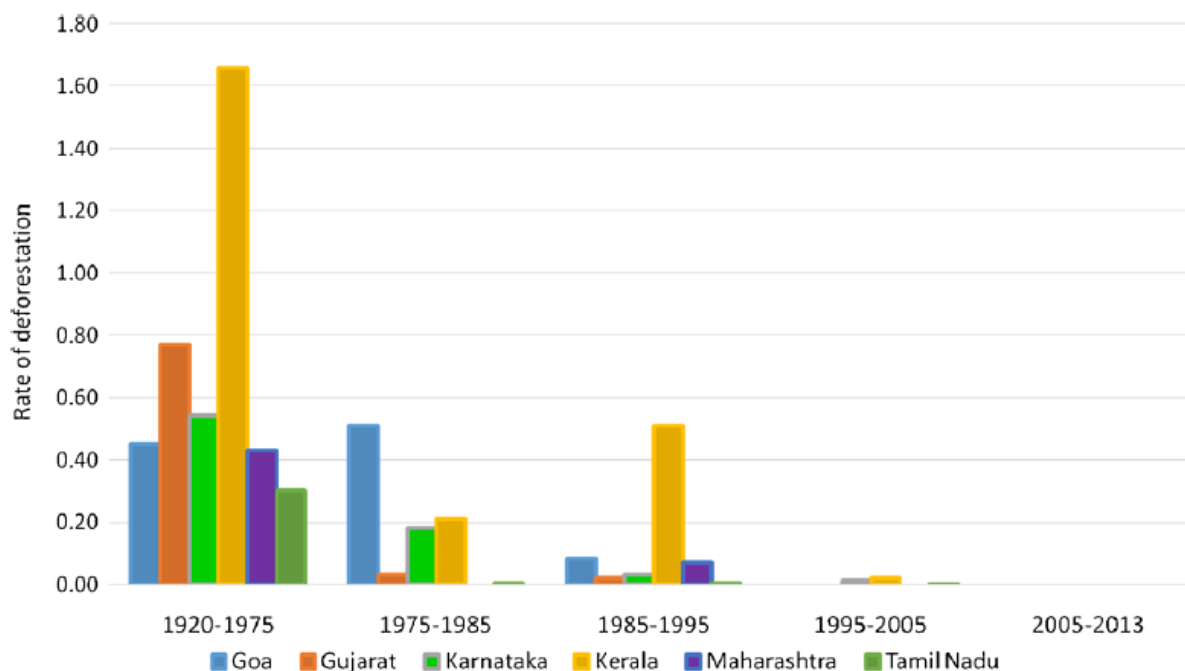
Accordingly, no assurance is or can be given that the Eligible Project will meet any or all investor expectations regarding “green” or other equivalently-labelled performance objectives or that any adverse environmental, social and/or other impacts will not occur during the implementation of the Eligible Project.

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Prospective investors in the Green Bonds should determine for themselves the relevance of such information for the purpose of any investment in such Green Bonds together with any other investigation such investors deem necessary. In particular, no assurance is given by Arkema that the use of the proceeds of such Green Bonds for the Eligible Project will satisfy, whether in whole or in part, any present or future investor expectations or requirements as regards any investment criteria or guidelines with which such investor or its investments are required to comply, whether by any present or future applicable law or regulations or by its own by-laws, investment policy or other governing rules or investment portfolio mandates.

Appendix

Appendix 1. Study on deforestation (see section 2.1.2.i – Sustainable sourcing: the castor crop)



Source: C, Sudhakar Reddy & Jha, Chandra & Dadhwal, Vinay. (2016). Assessment and monitoring of long-term forest cover changes (1920–2013) in Western Ghats biodiversity hotspot. *Journal of Earth System Science*. 125. 10.1007/s12040-015-0645-y.

Appendix 2. The “Pragati initiative” (see section 2.1.2.i – Sustainable sourcing: the castor crop)

As a first step, in 2016, the civil society organization Solidaridad, through an independent auditor firm, completed a baseline study of 1,000 farmers spread in 4 regions in Gujarat (Banaskantha, Mehsana, Patan, and Sabarkantha).

The main study findings were:

Highlights:

- High positive social impacts; Profitable crop – easy to sell; Family farms
- No competition with food; No deforestation; Ideal for poor soil

Aspects to Focus On:

- Irrigation techniques, Basic chemical hygiene
- Crop spacing for higher yield; Gender Equality; End user awareness

Outcomes of the Study:

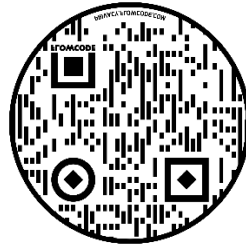
- Creation of Pragati Initiative for Sustainable Farming
- Creation of the Sustainable Castor Code



Accordingly, the aim of the programme was set forth to enhance sustainable castor crop production by using good agricultural practice to increase yield and farmers income, by using water resources efficiently, by driving adoption of good waste management practices, and by enabling better health and safety practices, and respecting human rights.

The first phase of the program started in 2016 and concluded in 2019, reaching the objective to certify 3,000 farmers with 5,200 hectares cultivated with castor. The program is now in its second phase aiming at reaching 7,000 farmers, preparing for scaling up to a much broader reach.

Watch more on Pragati Initiative:



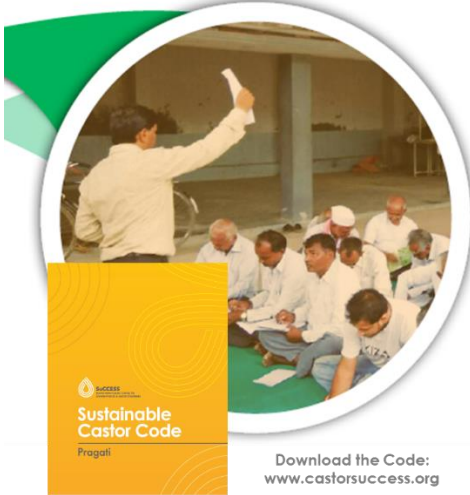
Sustainable Castor Association

Arkema along with the other three Pragati project partners have recently established the SuCCESSTM Secretariat, an independent association as custodian of the SuCCESSTM (Sustainable Castor Caring for Environmental and Social Standards) Code (see below). The secretariat is now open to new members within the castor community.

The SuCCESSTM Code

With this first-of-its-kind initiative globally, the Sustainable Castor Association have developed a sustainable castor framework titled 'SuCCESSTM' (Sustainable Castor Caring for Environmental & Social Standards). The SuCCESSTM Code is structured with eleven principles, which encompass the vision for sustainable production of castor. Principle 1 ensures that management system and governance in the business entity are in place and Principles 2 to 11 cover the core aspects of sustainable production covering the issues like good agricultural practices, soil and water management, workers right and protection, environmental management etc. The Code is designed towards a progressive achievement of complete compliance with a step by step journey.

A CODE WITH 76 AUDITABLE CRITERIA BASED UPON 11 PRINCIPLES



SuCCESSTM
Sustainable Castor Caring for
Environmental & Social Standards

- 1 Governance & Management System
- 2 Seed & Planting Materials
- 3 Soil & Water Management
- 4 Nutrition Management
- 5 Ecological Balance & Integrated Pest Management (IPM)
- 6 Safe Use of Crop Protection Products
- 7 Workers Welfare & Safety
- 8 Waste & Pollution Management
- 9 Bio-Diversity Management
- 10 Energy Management
- 11 Post Harvest Management Practices

Download the Code:
www.castorsuccess.org

